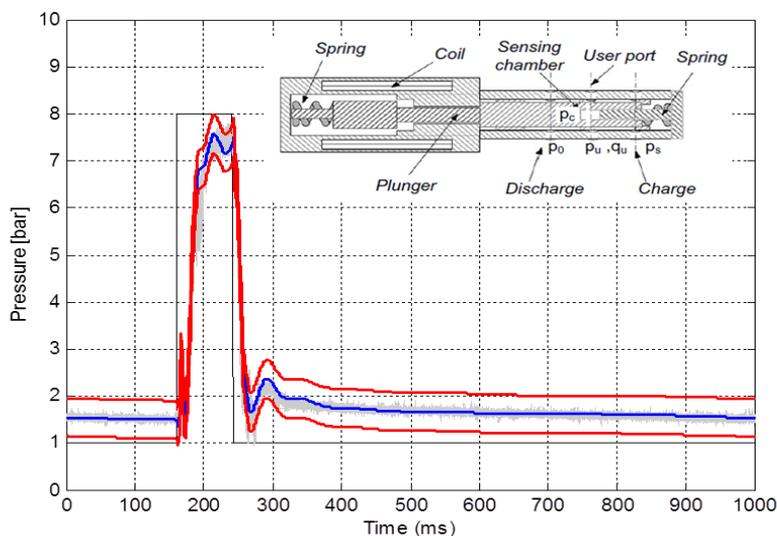
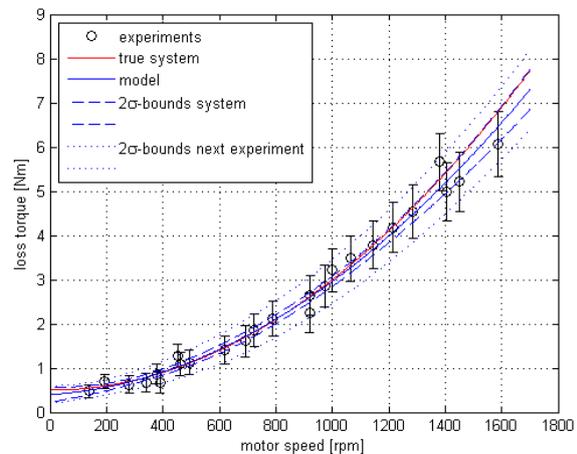


Public Workshop: Reliability estimation of physically inspired models (Relimod)

June 12th, 2014 at [FMTC, Leuven](#)

Physically inspired models are a useful means for designing better machines and vehicles. They allow for a faster control design and verification of the correct operation of the machine/vehicle through virtual tests. But how can we incorporate the different behavior of multiple machines of the same type in a single model? Or how can we rely on a model, if we do not know to what extent its behavior deviates from reality? For example, what guarantee do we have that a model-based control design will produce the expected performance on the actual machine? Or in an end-of-line test, can we use a model to evaluate whether the observed machine behavior is within acceptable tolerances? So an understanding of the reliability of the model and its parameters is necessary.

In the Relimod project, an approach is developed and demonstrated that allows quantifying the reliability (uncertainty) of the output of physically inspired models and their parameters based on a certain set of experiments performed on a realization of the mechatronic system.





Date & Place: Thursday June 12th @ [FMTC, Leuven](#), Meeting room: Baekeland 00.207

Time: 9:00 a.m. - 13:00 p.m.

Language: English

What to bring: a PC with Matlab (no particular toolbox required)

Target audience: engineers in modeling & control, reliability engineers, design engineers, test & validation engineers, technical directors, researchers in / interested to the field of modeling and reliability.

Agenda

09:00	Welcome & introduction	Erik Hostens
09:30	Modeling uncertainty - basic concepts (Fisher information matrix, Jacobian, propagation of input and parameter uncertainty)	Bert Lenaerts
10:30	Hands-on session	Bert Lenaerts, Erik Hostens
11:30	Coffee break	
12:00	Modeling uncertainty with the Parameter Estimation Toolbox	Bert Lenaerts

Participation is free of charge but registration is mandatory by sending an email to erik.hostens@fmtc.be, before June 6th.